IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

DATACORE SOFTWARE CORPORATION, Plaintiff, v. SCALE COMPUTING, INC., Defendant.	C.A. No. 22-535-GBW

Ethan H. Townsend, McDermott Will & Emery LLP, Wilmington, Delaware; A. Shane Nichols, McDermott Will & Emery LLP, Atlanta, Georgia; Thomas DaMario, McDermott Will & Emery LLP, Chicago, Illinois; Jodi Benassi, McDermott Will & Emery LLP, San Francisco, California.

Counsel for Plaintiff

Ian R. Liston, Jennifer A. Ward, Wilson Sonsini Goodrich & Rosati, P.C., Wilmington, Delaware; James C. Yoon, Wilson Sonsini Goodrich & Rosati, P.C., Palo Alto, California.

Counsel for Defendant

MEMORANDUM OPINION

August 14, 2023
Wilmington, Delaware

GREGORY B. WILLIAMS
UNITED STATES DISTRICT JUDGE

Plaintiff DataCore Software Corporation ("DataCore") alleges that Defendant Scale Computing, Inc. ("Scale") infringes United States Patent No. 9,344,235 ("the '235 patent"). D.I. 1. The '235 patent generally relates to a method and apparatus for allocating physical storage resources for virtual machines on a system network. *See generally* '235 patent at 1:54-2:4. Before the Court is the issue of claim construction of multiple terms across the '235 patent. The Court has considered the parties' joint claim construction brief and the accompanying exhibits. D.I. 49. The Court held a *Markman* hearing on June 21, 2023 (the "*Markman*," Tr. __).[1]

I. LEGAL STANDARDS

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted); *see also Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) ("A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention"). "[T]here is no magic formula or catechism for conducting claim construction." *Phillips*, 415 F.3d at 1324. The Court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.* The ultimate question of the proper construction of a patent is a question of law, although subsidiary fact-finding is sometimes necessary. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)).

[1] The Court writes for the benefit of the parties and assumes their familiarity with this action.

"The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history." *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1312–13). A person of ordinary skill in the art "is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313.

"When construing claim terms, the court first looks to, and primarily rel[ies] on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive." *Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013). "Other claims of the patent in question, both asserted and unasserted, can . . . be valuable" in discerning the meaning of a disputed claim term because "claim terms are normally used consistently throughout the patent," and so, "the usage of a term in one claim can often illuminate the meaning of the same term in other claims." *Phillips*, 415 F.3d at 1314. In addition, "[d]ifferences among claims can also be a useful guide[.]" *Id.* For example, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15.

In addition to the claim, the Court should analyze the specification, which "is always highly relevant to the claim construction analysis ... [as] it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. "Even when the specification describes only

a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)). And, the specification "is not a substitute for, nor can it be used to rewrite, the chosen claim language." *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

The Court "should also consider the patent's prosecution history, if it is in evidence." *Markman*, 52 F.3d at 980. The prosecution history "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution[.]" *Phillips*, 415 F.3d at 1317.

In some cases, the Court "will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva*, 135 S. Ct. at 841. Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. Overall, while extrinsic evidence may be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (internal quotation marks and citations omitted).

II. AGREED-UPON TERMS

The parties agreed upon the construction of one claim term. "Storage pool" in claims 1 and 2 of the '235 patent is afforded its plain and ordinary meaning, which is "a logical unit

including a collection of storage volumes and properties." D.I. 49 at 5. The Court will adopt the agreed-upon construction.

III. DISPUTED TERMS

A. "virtual volumes"

The claim term "virtual volumes" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for "virtual volumes" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"virtual volumes"	Plain and ordinary meaning, which means "virtual disk"	"virtual disk that is independent from the underlying physical storage"

While the parties agree that the disputed term "virtual volumes" means "virtual disks," *see* Tr. at 5; *see also* '235 patent at 4:22-23 ("[T]he virtual volume may also be referred to as a virtual disk."), the parties dispute whether "virtual volumes" must be independent from the underlying physical storage. *See, e.g.*, Tr. at 5; D.I. 49 at 6. Scale contends that the claim language dictates that "virtual volumes" must be independent from the underlying physical storage because the claims do not, prior to allocation, specify "a relationship or connection between the virtual volumes and the physical storage." Tr. at 5; *see* D.I. 49 at 7-8 ("'[W]herein the virtual volumes are presented to the client devices without requiring the assigned physical storage devices to have been previously presented to any of the client devices' . . . This claim language, therefore, allows for the virtual volumes to be presented to the client devices independently of the physical storage.") (quoting '235 patent at claim 1). Scale also argues that the specification supports its construction because it discloses that the purported benefit of the '235 patent is to allow "large volumes to be created without immediately requiring any physical disk space," *see* '235 patent at 2:38-40, meaning there is no requirement of "hard-mapping" between the virtual volumes and the physical

disk space. *See, e.g.*, Tr. at 6-9; D.I. 49 at 8. DataCore disagrees, arguing that the specification "demonstrates equivalence" between "virtual volumes" and "virtual disks," *see* Tr. at 14 (quoting '235 patent at 4:22-23), while the claim language contradicts Scale's position that "virtual volumes" ***must*** be independent from the underlying physical storage. *See* Tr. at 14-16. Specifically, while DataCore concedes that "virtual volumes" may be independent from the physical storage, *see id.* at 16, it contends that the claim language specifies when that can occur—i.e., during pre-allocation. *Id.* (quoting '235 patent at claim 1). Thus, the claim language is permissive, not mandatory—"virtual volumes" need not, although may, be independent from the physical storage. *Id.* at 17.

"It is axiomatic that we will not narrow a claim term beyond its plain and ordinary meaning unless there is support for the limitation in the words of the claim, the specification, or the prosecution history." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1333 (Fed. Cir. 2013) (citations omitted). "If the intrinsic record supports several definitions of a term, the term may be construed to encompass all such consistent meanings." *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1281 (Fed. Cir. 2017) (citation omitted). "Therefore, absent a clear disavowal or alternative lexicography by a patentee, he or she 'is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning.'" *Id.* at 1282 (quoting *Thorner*, 669 F.3d at 1367).

The Court begins its analysis with the language of the claim itself. Use of the disputed term in claim 1 of the '235 patent is instructive:

> 1. A method for managing ***virtual volumes***, the method comprising:
>
> > defining a storage pool to which one or more physical storage devices is assigned by selection from a plurality of available physical storage devices, the assigned physical storage devices having a total logical size;

> defining ***virtual volumes*** that are associated to the storage pool;
>
> presenting the ***virtual volumes*** to one or more client devices, wherein the ***virtual volumes*** have respective logical sizes, and the sum of the logical sizes for the ***virtual volumes*** intentionally exceeds the total logical size of the assigned physical storage devices, and wherein the ***virtual volumes*** are presented to the client devices without requiring the assigned physical storage devices to have been previously presented to any of the client devices;
>
> defining the storage pool to include a plurality of available chunks each having a chunk size, the chunk size differing from and being larger than a block size used for basic write requests received from the client devices for the ***virtual volumes***, the defining of the storage pool to include the plurality of available chunks occurring separately from the presenting of the ***virtual volumes*** to the client devices; and
>
> allocating physical chunks of the chunk size from the plurality of available chunks that are included in the storage pool to dynamically allocate physical resources to the ***virtual volumes*** on demand;
>
> wherein managing the ***virtual volumes*** is performed independently of the client devices.

See '235 patent at claim 1 (emphases added).

The plain language of the claim suggests, as does DataCore, that "virtual volumes" ***may*** be independent of the underlying physical storage. *See* '235 patent at claim 1 ("[W]herein the virtual volumes are presented to the client devices ***without requiring*** the assigned physical storage devices to have been previously presented to any of the client devices.") (emphasis added). As the claim recites, the correlation between the physical storage and the "virtual volumes," as defined by the storage pool, *see* '235 patent at claim 1 ("[D]efining virtual volumes that are associated to the storage pool . . ."), depends on whether physical resources have been allocated. That is, prior to allocating physical storage to "virtual volumes," the claim language specifies that "the virtual volumes are presented to the client devices without requiring the assigned physical storage devices to have been previously presented to any of the client devices." *Id.* However, the claim language later recites that, when "allocating physical chunks of the chunk size from the plurality of available

chunks that are included in the storage pool," the storage pool "dynamically allocate[s] physical resources to the virtual volumes on demand." *Id.* In other words, during allocation, the storage pool ties physical resources to "virtual volumes," i.e., "virtual volumes" are not independent of the underlying physical storage. Thus, contrary to Scale's construction, requiring that "virtual volumes" always be independent of the underlying physical storage would improperly contradict the plain claim language, which itself specifies when "virtual volumes" may be independent of the underlying physical storage—i.e., prior to allocation. *See Promos Techs., Inc. v. Samsung Elecs. Co.*, 809 F. App'x 825, 834 (Fed. Cir. 2020) ("[I]t is generally improper to construe a patent claim so that express claim limitations or elements are rendered superfluous."); *see also* Tr. at 15-16. ("Just because a physical storage device hasn't yet been allocated to a virtual volume doesn't mean that the virtual volumes is independent of that physical storage; allocation eventually happens. Eventually that virtual volume will be allocated, physical storage, through the storage pool. When that happens, the virtual volume is no longer independent from that [sic] physical resources.").

The specification of the '235 patent further confirms that "virtual volumes" need not always be independent of the underlying physical storage. Like the claim language, the specification consistently explains that the storage pool defines the relationship between the physical storage and the "virtual volumes" based on whether physical storage has been allocated.

> Network managed volumes may also be referred to as virtual volumes, since they are a specific type of virtual volume. A pool of storage can be defined and populated with physical disks that are accessible in a storage area network. Network managed volumes (NMV) are created from the storage pool, with each NMV being separately allocable to a host device (e.g., client, application server, etc.).

See '235 patent at 1:60-66. During allocation, the storage pool itself ties "virtual volumes" to the underlying physical storage, which refutes Scale's position that "virtual volumes" must always be independent of the physical storage. *See Vitronics Corp.*, 90 F.3d at 1583 (An interpretation

excluding a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support"). Indeed, Scale itself acknowledges that the specification, like the claim language, allows, but does not require, "virtual volumes" to be independent of the underlying physical storage. D.I. 49 at 8 ("The specification also explains that physical storage ***may or may not even*** be assigned to the virtual volume when it is presented to the client or host device.") (citing '235 patent at 1:67-2:4).

Accordingly, because the claim language itself specifies when "virtual volumes" may be independent of the underlying physical storage—i.e., prior to allocation—the Court declines to construe "virtual volumes" such that it must always be independent of the underlying physical storage. *See Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("Absent a clear disavowal in the specification or the prosecution history, the patentee is entitled to the ***full scope*** of its claim language.") (emphasis added). Having rejected Scale's efforts to improperly limit "virtual volumes" to always being independent of the underlying physical storage, the Court will apply the plain and ordinary meaning of "virtual volumes," which is the default in claim construction. *Phillips*, 415 F.3d at 1316. As explained above, the parties agree that the disputed term "virtual volumes" means "virtual disks." *See* Tr. at 5; *see also* '235 patent at 4:22-23 ("[T]he virtual volume may also be referred to as a virtual disk."). Thus, the Court will construe "virtual volumes" to have its plain and ordinary meaning as informed by the intrinsic record, which means "virtual disks."

B. "intentionally exceeds"

The claim term "intentionally exceeds" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for "intentionally exceeds" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"intentionally exceeds"	Not indefinite. Plain and ordinary meaning, which means "designed specifically to exceed"	Indefinite. Alternatively, "intentionally exceeds" requires more than the capability of being able to handle potential happenstance of over-commitment of resources.

The crux of the parties' dispute is whether the term "intentionally exceeds" is indefinite or, whether a person of ordinary skill in the art would understand, with reasonable certainty, its meaning based on the '235 patent's intrinsic record. Scale contends that "intentionally exceeds" is indefinite because "[t]here is no reference in the specification to how or why the sum of the logical sizes for the virtual volumes intentionally exceeds the total logical size of the assigned physical storage devices." D.I. 49 at 18. Thus, "[b]ecause 'intentionally exceeds' does not identify the scope of the alleged invention in any manner, let alone in a sufficiently definite way to allow a [person of ordinary skill in the art] to be informed of its scope with 'reasonable certainty,'" Scale argues that the term is indefinite. *Id.* at 19 (citing *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1374 (Fed. Cir. 2014)). Alternatively, Scale argues that "intentionally exceeds" should be construed "as requiring more than the capability of being able to handle 'potential happenstance of over-commitment' of resources" based on patentee's purported statements during the prosecution of the '235 patent. *Id.* at 19-20. DataCore disagrees, arguing that, based on the intrinsic record, the term is readily understood with reasonably certainty to mean "designed specifically to exceed." D.I. 49 at 14 (citing D.I. 49, Ex. B).

Section 112 of the Patent Act requires that the claims of a patent "particularly point[] out and distinctly claim[] the subject matter which the inventor . . . regards as the invention." 35 U.S.C. § 112(b). The "primary purpose of the definiteness requirement" contained in § 112(b) "is

to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe." *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002).

"A patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). To determine indefiniteness, courts examine "the patent record—the claims, specification, and prosecution history—to ascertain if they convey to one of skill in the art with reasonable certainty the scope of the invention claimed." *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). While a "'potential infringer'" need not "be able to determine ex ante if a particular act infringes the claims," the patentee must "apprise the public 'of what is still open to them[]'" such that "a person of ordinary skill in the art could determine whether or not an accused product or method infringes the claim." *Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1346-47 (Fed. Cir. 2022) (citations omitted) (internal quotations omitted). The challenger must "prov[e] indefiniteness by clear and convincing evidence." *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the issue of definiteness. *See Sonix Tech. Co. v. Publications Int'l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017). "[A]ny fact critical to a holding on indefiniteness must be proven by the challenger by clear and convincing evidence." *One-E-Way, Inc. v. Int'l Trade Comm'n*, 859 F.3d 1059, 1062 (Fed. Cir. 2017) (cleaned up).

In many cases, it is possible to decide indefiniteness at the claim construction stage. *See, e.g.*, *Nippon Shinyaku Co. v. Sarepta Therapeutics, Inc.*, C.A. No. 21-1015-GBW, 2023 WL 4314485, at *6-12 (D. Del. July 3, 2023); *Huber Engineered Woods LLC v. Louisiana-Pacific Corp.*, C.A. No. 19-342-LPS, 2020 WL 5132922, at *8-9 (D. Del. Aug. 31, 2020). In some cases, however, resolution of indefiniteness as part of claim construction may be either impossible or inadvisable. Where, for example, there is a subsidiary factual issue, and the record reveals a genuine dispute of material fact, resolution may have to await further evidentiary development. *See, e.g.*, *WSOU Invs., LLC v. Xilinx, Inc.*, C.A. No. 20-1228-GBW-JLH, 2022 WL 16707078, at *3 (D. Del. Nov. 4, 2022); *Waddington N Am., Inc. v. Sabert Corp.*, 2010 WL 4363137, at *3 (D.N.J. Oct. 27, 2010) (noting that "practical considerations [may] militate against determining indefiniteness prior to the end of fact or expert discovery"). Ultimately, "[w]hether to decide the issue of invalidity based on indefiniteness at the claim construction stage depends on the particular circumstances and claims at issue in a given case, and is a matter within a court's discretion." *Junker v. Med. Components, Inc.*, C.A. No. 13-4606, 2017 WL 4922291, at *2 (E.D. Pa. Oct. 31, 2017).

Here, the question of indefiniteness presents a close call, particularly in view of the parties' competing interpretations of the '235 patent's prosecution history, its relationship to the '235 patent's "over-committed" system, and the parties' experts' dueling opinions as to how a person of ordinary skill in the art would interpret the same. *See, e.g.*, Tr. at 18-41; D.I. 49, Exs. D, E. The Court is also concerned with the prejudice DataCore suffered by not being able to directly respond to Scale's expert's declaration on indefiniteness, *see* D.I. 49, Ex. E, which was served with Scale's sur-reply brief, even though the burden of proving indefiniteness rests with Scale. *See* Tr. at 31-32; *see BASF Corp.*, 875 F.3d at 1365. In the Court's view, there are underlying factual disputes

as to whether the '235 patent provides a person of ordinary skill reasonable certainty as to the scope of the term "intentionally exceeds." Under these circumstances, the Court will benefit from a more robust evidentiary record on this issue, including, for example, transcripts of expert depositions—which had not been taken as of the *Markman* hearing—and expert reports. Accordingly, the Court will defer ruling on whether "intentionally exceeds" is indefinite until the case dispositive motion stage.

C. "logical sizes"

The claim term "logical sizes" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for "logical sizes" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"logical sizes"	Plain and ordinary meaning, which means "amount of storage space"	"total amount of storage space corresponding to the storage pool"

Prior to the *Markman* hearing, the parties agreed that "logical sizes" relates to the amount of storage space, but disputed whether that storage space corresponds or relates to the storage pool. *See* D.I. 49 at 25-26; *see also* Tr. at 41 ("Parties agree that as part of 'logical size,' . . . that it relates to the amount of storage space."). However, during the *Markman* hearing, Scale voluntarily dropped the dispute, agreed that the term "logical sizes" should be afforded its plain and ordinary meaning, and conceded that it would not oppose the Court adopting the plain and ordinary meaning DataCore proposed. *See* Tr. at 46 ("[I]n light of [the] presentation of DataCore . . . [Scale] would be happy with just the plain and ordinary meaning of "logical sizes . . . if Your Honor wanted to adopt DataCore's construction of this term . . . we'd be okay with that."). Accordingly, the Court adopts the parties' agreed-upon construction and construes the term "logical sizes" to have its plain and ordinary meaning, which means "amount of storage space."

D. "physical resources"

The claim term "physical resources" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for "physical resources" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"physical resources"	Plain and ordinary meaning, which means "physical storage"	"available physical storage"

While the parties agree that the disputed term "physical resources" refers to "physical storage," *see* Tr. at 47; D.I. 49 at 32, the parties dispute whether the "physical storage" must always be available. *See* Tr. at 47. Scale contends that its proposed construction clarifies that "physical resources" must be available because the claimed method cannot allocate physical resources "on demand" if they are not otherwise available. *See* D.I. 49 at 31-32 ("Claims 1 and 2 recite that physical resources are dynamically allocated to the virtual volumes 'on demand,' which necessarily means that the physical resources are available.") (citations omitted); *see also* Tr. at 47. Further, Scale argues that, "if physical chunks are included within physical resources," as purportedly mandated by the claim language, then physical resources must "also have to be available because the chunks are also available." Tr. at 48; *see also* D.I. 49 at 31, 33-34. DataCore refutes Scale's position that "physical resources" must always be available, arguing that the claim language itself dictates when "physical resources" must be available. That is, the plain language of claims expressly provides when "physical resources" must be available, i.e., when dynamically allocated "on demand," without requiring that "physical resources" always be available. Tr. at 49-50.

While claims 1 and 2 of the '235 patent recite that physical resources are dynamically allocated to the virtual volumes "on demand," this claim language does not necessarily require that

the physical resources are ***always*** available. *See, e.g.*, '235 patent at claim 1 ("[D]ynamically allocate physical resources to the virtual volumes on demand . . ."); *id.* at claim 2 (same). As previously explained, *see supra* Section III.A, the claimed method recites steps prior to the storage pool "dynamically allocat[ing] physical resources to the virtual volumes on demand." *See* '235 patent at claim 1. While neither party disputes that, logically, to be dynamically allocated "on demand," "physical resources" must be available, *see* Tr. at 47, 49, there is nothing in claim language to otherwise suggest that physical storage may not be available prior to allocation. *See* Tr. at 50 ("I wanted to provide an instance where a physical resource[] may not be available. And so, if we think of the system, the patent describes the ability to add more physical storage. Before that physical storage is added, it's not available, it can't be allocated. . . . So in that sense we do have physical storage that at one point was unavailable, became available[,] and then could be allocated."). Stated another way, because the claim language itself already dictates whether the physical resources must be available, i.e., to "dynamically allocate physical resources to the virtual volumes on demand," requiring that "physical resources" always be available would render this claim language superfluous. *See Promos Techs.*, 809 F. App'x at 834 ("[I]t is generally improper to construe a patent claim so that express claim limitations or elements are rendered superfluous.").

Furthermore, there is no merit to Scale's argument that, "if physical chunks are included within physical resources," then physical resources must "also have to be available because the chunks are also available." Tr. at 48; *see also* D.I. 49 at 31, 33-34. Notably, the word "available" is used to modify the term "physical chunks" but is not used when referring to "physical resources." As Scale itself concedes, "'chunks' and 'physical resources' are distinct claim terms. D.I. 49 at 34. Clearly then, the patentees knew how to limit the claim scope such that "physical chunks" must be "available," while simultaneously choosing not to limit the distinct term "physical

resources." *See Takeda Pharm. Co. v. Zydus Pharms. USA, Inc.*, 743 F.3d 1359, 1365 (Fed. Cir. 2014) (declining to limit claim when the inventors knew how to include those limitations "when they so desired"); *see also CFL Techs. LLC v. Osram Sylvania, Inc.*, No. 18-1445-RGA, 2022 WL 606329, at *9 (D. Del. Jan. 21, 2022).

Having rejected Scale's efforts to improperly limit "physical resources" such that they must always be available, *see Home Diagnostics*, 381 F.3d at 1358 ("Absent a clear disavowal in the specification or the prosecution history, the patentee is entitled to the full scope of its claim language."), the Court will apply the plain and ordinary meaning of "physical resources," which is the default in claim construction. *Phillips*, 415 F.3d at 1316. As explained above, the parties agree that the disputed term "physical resources" refers to "physical storage." *See* Tr. at 47; D.I. 49 at 32. Thus, the Court will construe "physical resources" to have its plain and ordinary meaning as informed by the intrinsic record, which means "physical storage."

E. "dynamically allocate"

The claim term "dynamically allocate" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for the term "dynamically allocate" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"dynamically allocate"	Plain and ordinary meaning, which means "allocate based on immediate need"	"distribute based on actual demand"

Initially, the parties' dispute was two-fold: (1) whether allocation is based on immediate need or actual demand; and (2) whether allocation should be construed to mean distribute. *See* Tr. at 54, 58. During the *Markman* hearing, both parties advanced their respective constructions while relying on the '235 patent specification's disclosure that, "[w]hen a host device writes to an NMV

in accordance with the present invention, chunks of physical storage are allocated from a pool on demand to meet the immediate need." *See* '235 patent at 2:40-43. In response, the Court proposed that, based on this language from the specification and in light of the claim language, "dynamically allocate" should be construed to mean "allocate on demand to meet an immediate need." Tr. at 61-62; *see* '235 patent at claim 1, 2 ("[T]o dynamically allocate physical resources to the virtual volumes on demand."); *see, e.g.*, *id.* at 6:19-20 ("[P]hysical resources are allocated to NMVs based upon actual demand."); *id.* at 12:31-34 ("The term allocable is used, because, as described above, even where a physical disk has been designated to a storage pool, the actual physical storage is not allocated until it is determined to be required."). The parties indicated that they were amenable to the Court's proposed construction. Tr. at 62. Accordingly, the Court construes "dynamically allocate" to mean "allocate on demand to meet an immediate need."

F. "assigned physical storage devices"

The claim term "assigned physical storage devices" appears in claims 1 and 2 of the '235 patent. The parties' competing proposed constructions for "assigned physical storage devices" are set out in the chart below:

Claim Term	DataCore's Construction	Scale's Construction
"assigned physical storage devices"	Plain and ordinary meaning, which means "assigned physical storage devices"	"corresponding physical disk storage space"

While the parties agree that the disputed term "assigned physical storage devices" refers to "physical storage," *see* Tr. at 62; *see also* D.I. 49 at 39, the parties dispute (1) whether "assigned physical storage devices" is limited to physical disk storage space; and (2) whether "assigned physical storage devices" corresponds to the storage pool. Tr. at 62; *see also* D.I. 49 at 40, 42-43. However, during the *Markman* hearing, the Court pressed Scale on whether its proposed

construction improperly limits "assigned physical storage devices" solely to "physical disk storage space," while precluding other types of physical storage devices disclosed in the specification of the '235 patent. Tr. at 65; *see, e.g.*, '235 patent at 2:18-19 ("[P]hysical storage devices could be of various types and sizes."); *id.* at 4:5-9; *see also SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1378-79 (Fed. Cir. 2013) ("A claim construction that 'excludes the preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.") (quoting *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010)). In response, Scale acknowledged that its proposed construction would exclude "other forms of storage that might be a physical resource" as disclosed by the specification, agreed to drop this dispute, and proposed a modified construction of "corresponding physical device storage space" or "corresponding physical storage devices." *See* Tr. at 65-67. Thus, the remaining dispute boils down to whether the claim language requires that physical storage devices correspond to the storage pool. *Id.* at 67 ("So now [the dispute] boils down to whether [its] assigned or corresponding . . .").

DataCore contends that no construction is necessary because a person of ordinary skill in the art would understand, based on the plain language of the claims, that "physical storage devices" are assigned to the storage pool. D.I. 49 at 39. In other words, the claim language expressly recites the relationship between "physical storage devices" and the storage pool, thereby obviating any further need to clarify the scope of the disputed term. *Id.* Scale disagrees, arguing that its proposed construction "will assist the fact finder" because "[t]he claims clearly recite that the physical storage devices are 'assigned' to a storage pool, meaning that there are physical storage devices corresponding to the storage pool." *Id.* at 40 (citing '235 patent at claim 1).

The Court need not function as a thesaurus when tasked with construing a nontechnical, plain-English word. *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001) ("[Terms that] are not technical terms of art . . . do not require elaborate interpretation."). "Assigned" is not a technical term of art that requires an elaborate interpretation, nor a term that requires the Court to replace with the word "corresponding," as Scale contends. D.I. 49 at 40, 42. The claim language of the '235 patent expressly recites the relationship between "physical storage devices" and the storage pool such that a person of ordinary skill in the art would readily understand that "physical storage devices" are assigned to the storage pool. *See* '235 patent at claim 1 ("[D]efining ***a storage pool*** to which ***one or more physical storage devices is assigned*** by selection from a plurality of available physical storage devices, the assigned physical storage devices having a total logical size.") (emphases added). Indeed, Scale acknowledges that "the claims define the relationship between 'the storage pool' and the 'physical storage devices' as one where the 'physical storage devices' are ***assigned*** to 'the storage pool,'" D.I. 49 at 42 (emphasis added), yet remains steadfast that "assigned" should be replaced with "corresponds." *Id.* However, the Court declines Scale's invitation to embark on an unnecessary exercise in applying the widely accepted meaning of a commonly understood word. *See Phillips*, 415 F.3d at 1314.

Having rejected Scale's efforts to replace "assigned" with "corresponding," the Court finds that the parties do not meaningfully dispute the scope of the term "assigned physical storage devices." *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (claim construction "is not an obligatory exercise in redundancy"). Both parties agree that the claim language clearly recites that the physical storage devices are "assigned" to a storage pool. D.I. 49 at 39-40. Thus, there is no genuine dispute as to proper scope of the claim term that would require the Court to further construe the term. *See ActiveVideo Networks, Inc. v. Verizon Communs., Inc.*,

694 F.3d 1312, 1325-26 (Fed. Cir. 2012) (finding that the district court did not err in concluding that a term's plain and ordinary meaning applies without offering additional construction); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). As such, because the meaning of the disputed term is readily discernable from the plain language of the claims, the Court adopts the plain and ordinary meaning of the term "assigned physical storage devices." *Phillips*, 415 F.3d at 1316.

IV. CONCLUSION

The Court will construe the disputed claim terms as described above. The Court will issue an Order consistent with this Memorandum Opinion.